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# MINERAL INDUSTRY SURVEYS

U. S. DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES



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JANUARY 1972

PETROLEUM PRODUCTS SURVEY  
NO. 73

## MOTOR GASOLINES, SUMMER 1971

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# MOTOR GASOLINES, SUMMER 1971

by

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## CONTENTS


	<u>Page</u>
Introduction .....	1
Summary .....	1
Discussion of data .....	2
List of motor-gasoline survey reports, 1962-71.....	5

## ILLUSTRATIONS

<u>Fig.</u>		<u>Follows page</u>
1.	Trends of certain characteristics of regular-price gasolines .....	5
2.	Trends of certain characteristics of premium-price gasolines .....	5
3.	Distribution of research-method octane numbers .....	5
4.	Distribution of motor-method octane numbers .....	5
5.	Map showing locations and numbers of samples for the national motor gasoline survey, summer 1971 .....	59

## TABLES

	<u>Page</u>
1. Summary of values, motor gasoline survey, summer 1971 .....	7
2. Summary of values, motor gasoline survey, summer 1970 .....	7
3. Average data for different brands, summer 1971.....	8
4. Average data for brands in each district .....	42
5. Data for some additional grades .....	44
6. Analyses of low-lead content gasoline .....	50
7. Cumulative percents of samples of all grades by research octane numbers by districts .....	57
8. Cumulative percents of samples of all grades by motor octane numbers by districts .....	58
9. Locations and numbers of samples .....	59



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## INTRODUCTION

The properties of motor fuels sold through service stations in the United States are reported in accordance with a cooperative agreement between the American Petroleum Institute and the Bureau of Mines of the United States Department of the Interior. By agreement with the American Petroleum Institute, identification of the data by item number is confidential.

Analytical data for 4,602 samples that represent the products of 57 companies are included. Company representatives collected the samples during June, July, and August 1971. As in previous surveys, the gasolines covered by this survey include those from both large and small suppliers. Laboratories of various refiners, motor manufacturers, and chemical companies obtained and submitted the data to the Bureau of Mines for compilation. Motor-gasoline survey reports published during the past 10 years are listed on page 5.

Gravity and octane numbers were reported for all samples (4,602) used to prepare this report. However, other analytical tests required for a complete gasoline analysis were not available for many of the samples. Tests in this category, the number of test results available and used in this report, and the percent of the total samples represented for that test include the following:

<u>Test</u>	<u>Number of samples used</u>	<u>Percent of total samples</u>
Sulfur content	914	20
Lead content	3,562	77
Distillation	2,648	58
Vapor pressure	2,585	56

## SUMMARY

The characteristics of motor gasolines for summer 1971 are summarized in table 1, and for comparison, those for summer 1970 are shown in table 2. Trends of some of the more important characteristics for several years are shown in figures 1 and 2. The following data show trends of national average octane numbers during recent years:

	Regular-price		Premium-price	
	Octane number		Octane number	
	Research	Motor	Research	Motor
Winter 1969-70	93.8	86.3	99.8	92.2
Summer 1970	93.8	86.3	99.8	92.2
Winter 1970-71	93.9	86.4	99.8	92.2
Summer 1971	94.0	86.3	99.8	92.3

Tables 3 and 4 show regional average octane numbers of regular- and premium-price fuels.

Data for third grade, intermediate grade, and super-premium gasolines are included in table 5.

Data for gasolines that contained 0.75 g Pb/gal. or less are included in table 6. Data for each of the 218 items in the table are averages for the 573 samples represented.

### DISCUSSION OF DATA

Terms used in the surveys have the following meanings:

District: The designation of a marketing area for collecting samples and data. The present arrangement of 17 districts, developed by the CFR Committee, <sup>1/</sup> was selected with reference to the specifications on motor gasolines, refinery locations, population centers, and arteries of commerce such as navigable rivers. The States or parts of States in each district are indicated in the headings of table 3 and are shown in figure 5.

Brand: The gasoline sold within a given price group and by a given trade name.

Item: The index number assigned to a given brand in a given district. The data for each item represent the average of those submitted for that brand in that district. The number of samples represented follows the item number.

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<sup>1/</sup> Coordinating Fuel and Equipment Research Committee (formerly the Coordinating Fuel Research Committee) of the Coordinating Research Council, Inc. From 1935 to 1948 the motor-gasoline surveys were conducted under a cooperative agreement between the Coordinating Research Council and the Bureau of Mines.



Sample: The supply of gasoline obtained at the service station and analyzed in the laboratory.

Table 3 presents by districts data for gravity in degrees API, sulfur, gum, lead, research- and motor-method octane numbers, Reid vapor pressure, and distillation characteristics of the motor fuels collected. The tests were made according to American Society for Testing and Materials standards. 2/

Corrosion test results are not included in the district tables as all the reported numbers are "1," according to the corrosion scale given in table 1 of ASTM D130. 2/

Gum test data are reported to the nearest whole number. The distillation temperatures, corrected to barometric pressure at 760 mm Hg, are those for percent evaporated.

Average values follow the tabulated data in table 3 for the respective grades of fuel shown in each district. The averages of the various properties were computed without reference to the total number of samples represented by each item.

The district averages from table 3 are shown in table 4 with the number of brands and number of samples for regular- and premium-price gasoline in each district. The national averages for each of the properties of fuels sold in each of the 17 districts are given at the end of the table.

Table 5 shows data for third grade, intermediate grade, and super-premium motor gasolines.

Figures 1 and 2 illustrate trends in the national averages of certain properties of regular- and premium-price gasolines, respectively, since the summer of 1946. Averages for the winter surveys are plotted on the lines that represent the years and for the summer surveys between the lines. Octane-number points are connected for successive surveys, but those for Reid vapor pressure and distillation temperatures are plotted separately for summer and winter surveys. Charts that show plots of these properties from 1935 (except winter 1941-42 and summer 1942) are presented in the survey report on motor gasolines for winter 1964-65 and preceding reports. 3/

2/ American Society for Testing and Materials, 1970 Annual Book of ASTM Standards, Part 17, Petroleum Products -- Fuels; Solvents; Burner Fuel Oils; Lubricating Oils, Cutting Oils; Lubricating Greases; Hydraulic Fluids, Philadelphia, Pa., 1,294 pp.

3/ Blade, O.C., Motor Gasolines, Winter 1964-65. Bureau of Mines Petroleum Products Survey No. 40, 38 pp. (in cooperation with the American Petroleum Institute).



Figures 3 and 4 illustrate distribution (frequency) of octane values by numbers of samples for all grades of fuel represented. Each bar represents one-half octane number.

Data for gasolines that contained 0.75 g Pb/gal. or less are included in table 6. The analyses represented by the data in table 6 also are included in the items in tables 3 and 5 with their respective grades. However, the data in table 6 do not correspond to item numbers in the other tables because data in table 6 were collated for each brand marketed in each city, rather than for each brand marketed in an entire district.

Tables 7 and 8 show the percentages of all samples for each district at each whole octane number level, cumulated according to increasing octane number.

The districts, locations, and number of samples of gasoline represented are listed in table 9 and shown on the map in figure 5. The locations are named for the principal cities in the respective vicinities, and include suburbs and adjacent communities. The area of the circle at each location is proportional to the number of samples obtained. The summary at the end of table 9 lists by district, the number of locations, samples, and the percentages of the latter based on the total reported.

This report does not discuss the significance of the data presented. Reference may be made to the ASTM specification 4/ for motor gasoline and its appendix, "Significance of ASTM Specifications for Motor Gasoline," at a technical library.

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4/ American Society for Testing and Materials, Standard Specifications for Gasoline (D439): 1970 Annual Book of ASTM Standards, Part 17 (see footnote 2), pp. 173-183.



## LIST OF MOTOR-GASOLINE SURVEY REPORTS, 1962-71

<u>Author</u>	<u>Season and Year</u>	<u>PPS Report No.</u>	<u>Published</u>	<u>No. of Pages</u>
In cooperation with the American Petroleum Institute				
Blade, O. C.	Summer 1962	27	Jan. 1963	32
Do.	Winter 1962-63	30	June 1963	32
Do.	Summer 1963	33	Jan. 1964	35
Do.	Winter 1963-64	35	June 1964	40
Do.	Summer 1964	37	Dec. 1964	40
Do.	Winter 1964-65	40	July 1965	38
Do.	Summer 1965	43	Jan. 1966	39
Do.	Winter 1965-66	45	June 1966	38
Do.	Summer 1966	48	Dec. 1966	38
Do.	Winter 1966-67	50	June 1967	38
Do.	Summer 1967	53	Dec. 1967	38
Do.	Winter 1967-68	55	June 1968	39
Do.	Summer 1968	58	Jan. 1969	38
Do.	Winter 1968-69	60	July 1969	38
Blade, O.C. and Ella Mae Shelton	Summer 1969	63	Jan. 1970	38
Shelton, Ella Mae and C.M. McKinney	Winter 1969-70	66	Aug. 1970	47
Do.	Summer 1970	68	Jan. 1971	49
Do.	Winter 1970-71	70	June 1971	54
Shelton, Ella Mae	Summer 1971	This report		





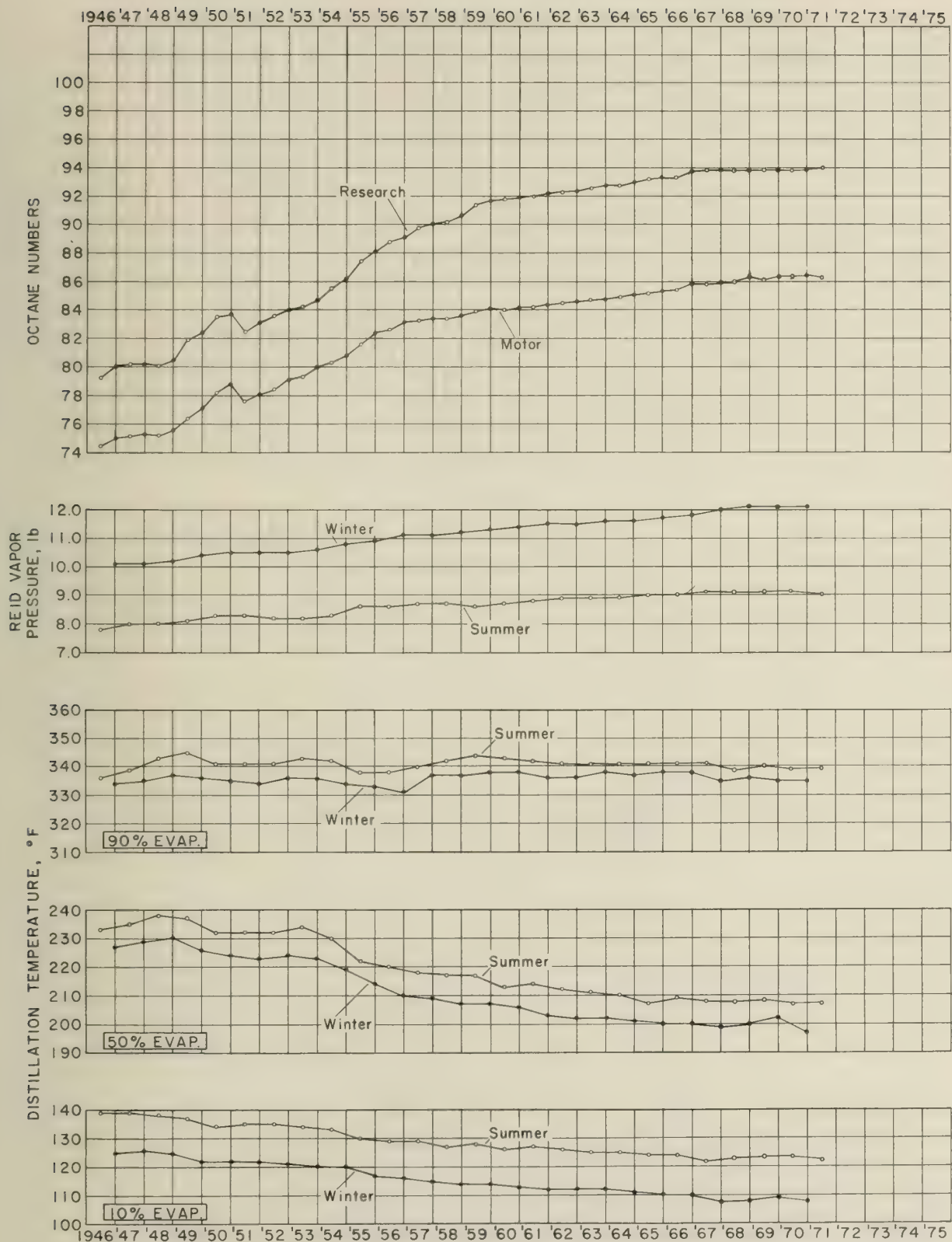


FIGURE 1.—Trends of Certain Characteristics of Regular-Price Gasolines.





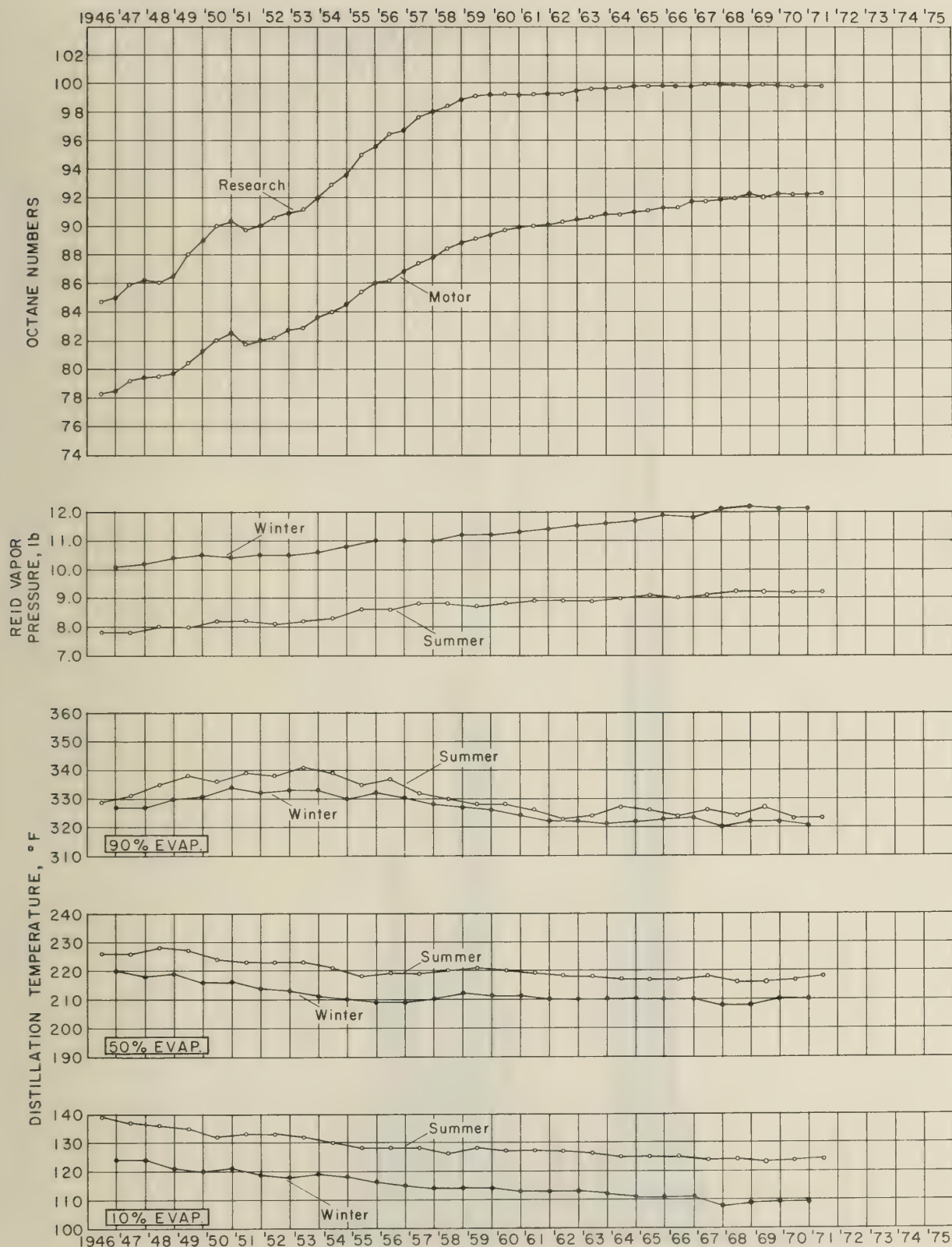


FIGURE 2.—Trends of Certain Characteristics of Premium-Price Gasolines.





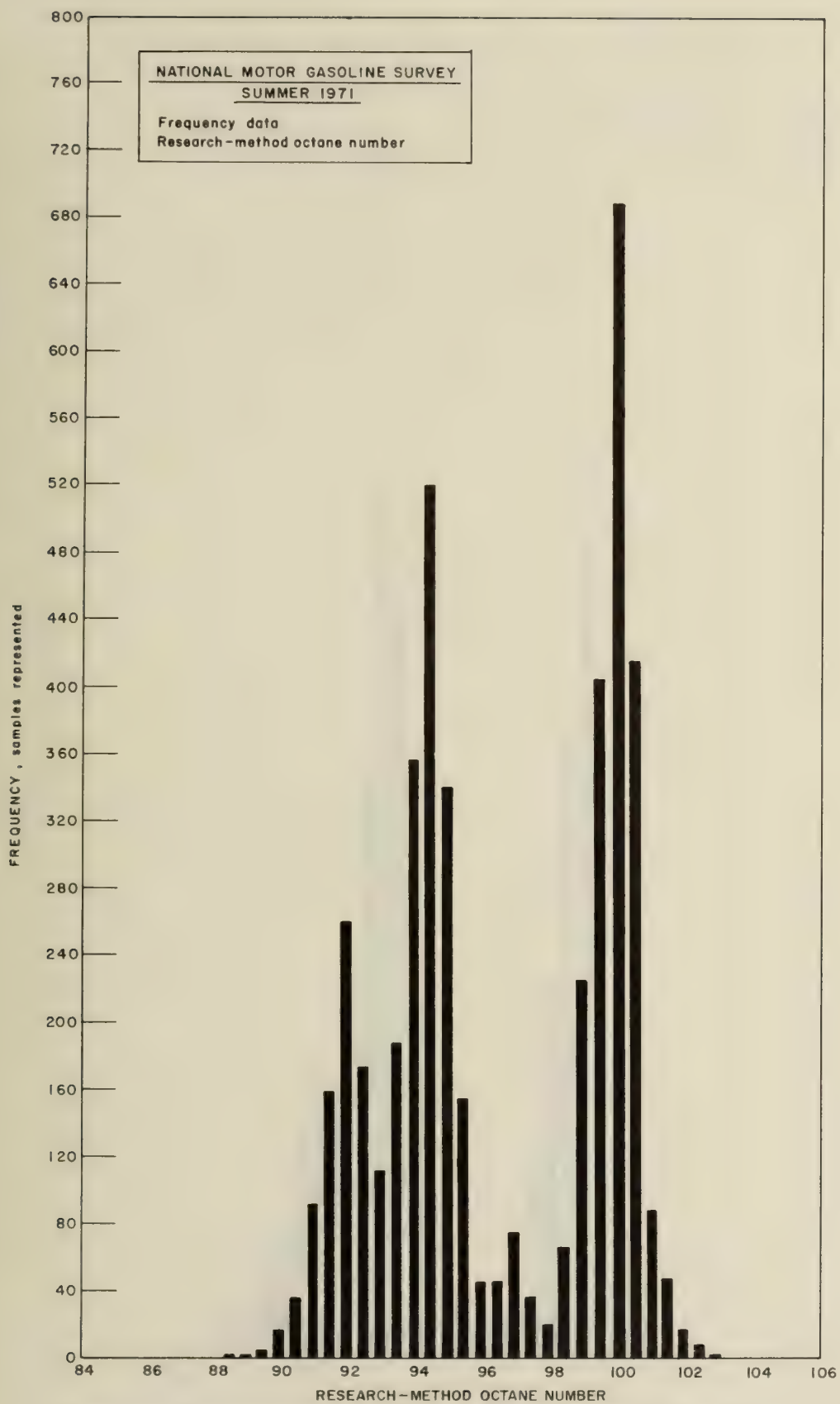


FIGURE 3.— Distribution of Research — Method Octane Numbers.





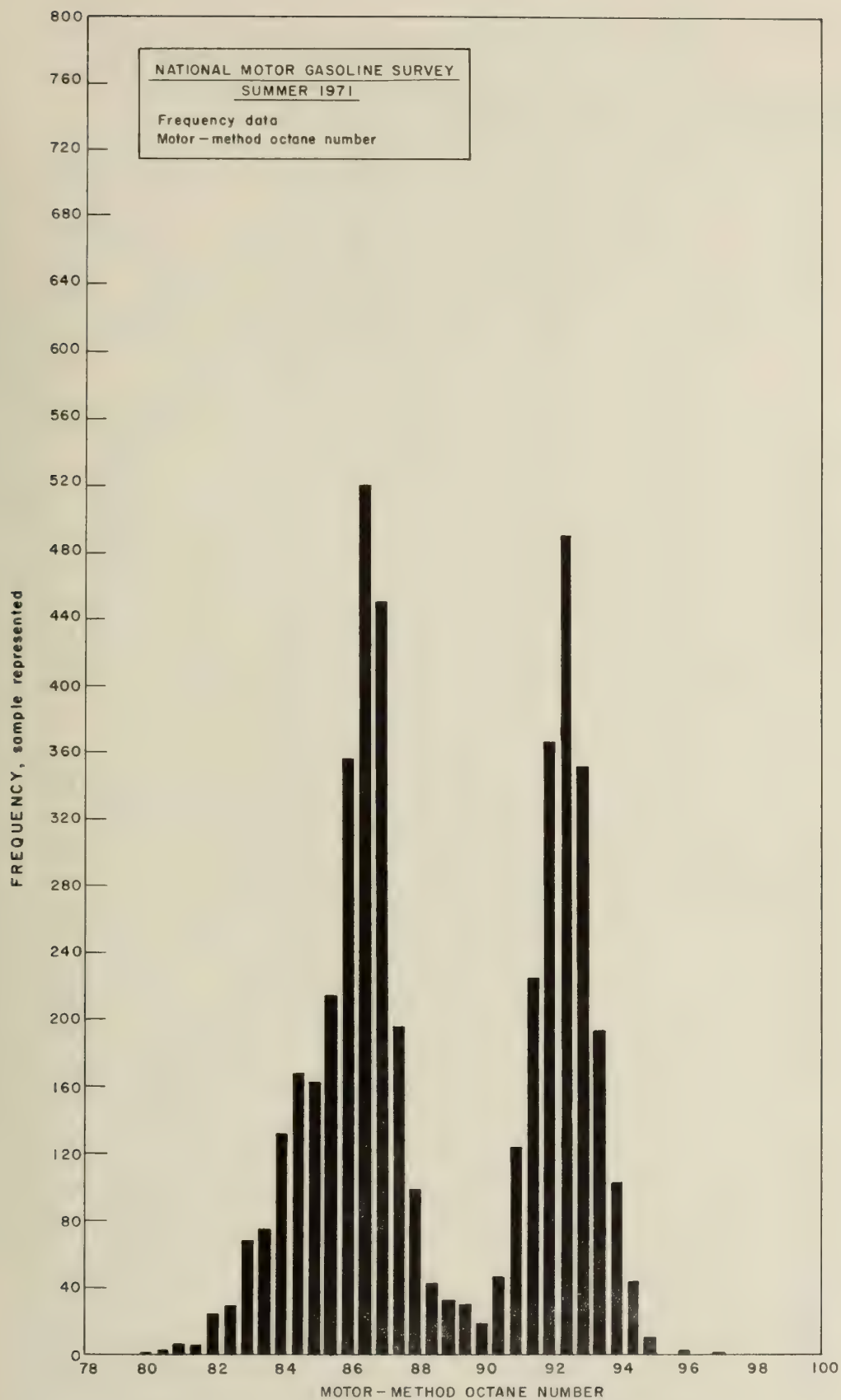


FIGURE 4.—Distribution of Motor-Method Octane Numbers.





TABLE 1. - Summary of values, motor gasoline survey, summer 1971

Test	ASTM method	Regular-price gasoline	Premium-price gasoline
		Average	Average
Gravity, °API	D287	60.9	60.7
Corrosion, No.	D130	1	1
Sulfur content, wt %	D1266	0.043	0.022
Gum, mg/100 ml	D381	1	1
Lead, g/gal.	D526	2.22	2.67
Octane number, Research	D2699	94.0	99.8
Octane number, Motor	D2700	86.3	92.3
Reid vapor pressure, lb	D323	9.0	9.2
Distillation	D86		
Temp, °F			
IBP		92	91
5% evaporated		109	108
10% Do.		122	124
20% Do.		142	148
30% Do.		162	172
50% Do.		206	218
70% Do.		260	257
90% Do.		339	323
95% Do.		372	354
End point		410	397
Residue, vol %		1.0	0.9
Loss, vol %		1.3	1.5

TABLE 2. - Summary of values, motor gasoline survey, summer 1970

Test	ASTM method	Regular-price gasoline	Premium-price gasoline
		Average	Average
Gravity, °API	D287	61.1	60.8
Corrosion, No.	D130	1	1
Sulfur content, wt %	D1266	0.042	0.021
Gum, mg/100 ml	D381	1	1
Lead, g/gal.	D526	2.43	2.81
Octane number, Research	D2699	93.8	99.8
Octane number, Motor	D2700	86.3	92.2
Reid vapor pressure, lb	D323	9.1	9.2
Distillation	D86		
Temp, °F			
IBP		93	92
5% evaporated		110	109
10% Do.		123	124
20% Do.		143	148
30% Do.		163	172
50% Do.		207	217
70% Do.		260	257
90% Do.		339	323
95% Do.		372	355
End point		410	399
Residue, vol %		0.9	0.9
Loss, vol %		1.5	1.6





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 1 NORTHEAST--CONTINUED  
MAINE, MASS., N.H., VT., AND NORTHERN N.Y.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS %
						RES, ASTM D2699	MOT, ASTM D2700	R+M ==		TEMPERATURE, F (CORRECTED TO 760 MM HG)											
										PERCENT EVAPORATED											
										IBP	5	10	20	30	50	70	90	95	EP		
16	4	50.8	0.016	2	.00	101.6	90.7	96.2	9.4	88	103	123	155	192	239	268	315	337	381	0.8	2.0
17	5	60.0	.025	1	3.13	100.4	93.0	96.7	10.0	87	99	112	131	152	207	257	329	355	394	.8	2.5
18	4	61.6	.024	2	2.36	99.9	91.8	95.9	9.3	93	107	122	145	167	216	262	336	365	409	.9	2.1
19	10	64.5	.007	1	1.69	100.8	92.6	96.7	10.4	87	102	113	130	148	197	240	292	321	365	1.0	1.8
20	10	59.4	.010	1	2.58	100.1	92.0	96.1	10.0	87	103	116	137	161	215	267	321	347	391	1.0	1.9
21	1	62.8	.019	1	2.03	100.1	91.5	95.8	9.4	86	101	118	141	178	216	246	330	369	421	1.0	2.0
22	3	60.8	-	-	-	100.0	92.1	96.1	9.9	92	105	116	136	156	212	256	318	345	388	1.0	2.0
23	7	55.7	.005	1	3.10	100.5	93.0	96.8	9.5	90	105	121	142	164	231	278	332	353	392	.9	1.3
24	7	57.9	.015	1	2.77	100.1	92.8	96.5	9.8	89	105	119	140	164	220	266	325	355	399	.9	1.4
25	3	61.4	.032	-	2.68	100.5	92.8	96.7	9.7	92	102	114	133	152	212	267	332	350	386	.6	.9
26	4	58.2	.020	2	2.67	100.2	91.9	96.1	9.0	86	100	116	140	168	221	265	331	359	415	1.0	2.0
27	9	62.8	.018	2	2.19	100.2	92.4	96.3	9.8	89	102	120	143	166	215	252	311	340	388	.9	1.6
28	7	58.9	.027	0	2.68	100.5	92.3	96.4	9.9	85	103	117	140	166	220	271	333	353	378	1.0	2.1
29	1	59.0	.026	1	2.91	99.8	92.1	96.0	9.1	88	100	116	142	169	220	262	315	343	393	1.0	2.0
30	3	58.8	.010	-	2.83	100.4	92.7	96.6	9.7	92	109	123	146	172	219	262	319	345	388	.5	1.0
31	1	58.1	.008	1	2.94	100.3	92.0	96.2	10.8	87	105	119	142	166	217	261	323	352	397	1.0	2.5
AVERAGE		59.4	.017	1	2.61	100.3	92.2	96.3	9.7	89	103	118	140	165	217	261	323	349	393	.9	1.8
SAMPLES	79																				



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
 DIST. 2 MID-ATLANTIC COAST--CONTINUED  
 R.I., CONN., N.J., DEL., MD., VA., CENTRAL AND SOUTHERN N.Y., AND EASTERN PA.  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS % %		
						RES, ASTM D2699	MOT., ASTM D2700		R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED											
											IBP											
												5	10	20	30	50	70	90	95		EP	
49	16	53.5	0.014	1	0.02	101.6	91.4	96.5	9.5	89	104	119	146	179	231	266	321	344	373	0.8	1.7	
50	15	58.7	.004	1	2.47	100.0	93.0	96.5	10.4	86	101	115	135	159	217	269	327	356	398	1.1	1.9	
51	17	60.3	.021	1	2.63	100.4	92.5	96.5	9.6	93	107	121	145	171	222	265	335	364	400	.9	2.0	
52	9	60.1	-	-	2.68	100.2	93.0	96.6	9.4	88	104	119	144	171	222	265	335	369	403	.8	1.2	
53	22	62.8	.012	1	2.04	100.9	92.5	96.7	9.8	90	104	117	137	159	206	246	305	333	377	1.1	1.6	
54	23	59.6	.008	1	2.58	100.0	92.2	96.1	9.0	90	106	120	141	164	220	266	321	347	389	1.0	1.6	
55	11	62.1	.016	2	2.15	99.9	92.7	96.3	9.7	90	104	115	135	157	215	256	319	352	397	.9	1.9	
56	17	56.9	.009	1	2.81	100.1	92.7	96.4	9.2	89	105	117	137	161	228	277	332	356	394	1.0	1.6	
57	21	58.7	.014	1	2.57	99.9	92.6	96.3	9.1	90	107	120	141	163	214	263	321	349	395	1.0	1.6	
58	8	57.9	.007	2	2.26	100.2	92.4	96.3	9.3	86	110	123	146	171	223	270	327	352	399	.9	1.1	
59	20	58.4	.016	1	2.59	100.0	91.8	95.9	9.4	89	105	120	143	168	221	265	335	366	408	.9	1.9	
60	23	60.8	.010	1	2.63	100.3	92.2	96.3	9.4	90	106	121	146	171	217	252	308	337	378	1.0	1.7	
61	13	57.0	.031	1	2.44	100.7	91.8	96.3	9.3	89	104	118	143	170	224	278	334	352	376	.7	1.9	
62	3	59.5	-	-	2.12	100.4	92.7	96.6	9.0	86	101	116	138	158	204	247	302	332	380	.8	1.7	
63	8	55.0	.010	1	2.93	101.0	93.2	97.1	9.2	93	107	124	153	183	235	272	326	349	380	.9	1.7	
64	3	60.4	-	-	2.73	100.5	93.1	96.8	9.8	89	102	119	144	169	218	260	336	370	398	.7	1.3	
65	9	59.7	-	-	2.71	100.3	92.4	96.4	9.4	89	104	119	143	170	219	266	326	352	394	.8	1.4	
66	5	58.9	.011	1	2.78	100.0	91.5	95.8	10.4	85	102	117	143	171	221	264	323	352	395	1.0	2.6	
AVERAGE		58.9	.013	1	2.40	100.4	92.4	96.4	9.5	89	105	119	142	168	220	264	324	352	391	.9	1.7	
SAMPLES	243																					











TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 4 APPALACHIAN--CONTINUED  
 OHIO, W. VA., WESTERN N.Y., WESTERN PA., EASTERN KY., AND PART OF MD.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER				RVP, ASTM D323 LB	DISTILLATION, ASTM D86														RES LOSS %		
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED												EP				
											IBP																
												5	10	20	30	50	70	90	95								
121	8	54.1	0.011	1	.00	101.3	91.1	96.2	10.1	86	97	114	144	183	234	265	319	343	376					0.9	3.4		
122	7	60.3	.027	2	3.16	100.5	92.9	96.7	9.0	91	108	122	145	167	215	255	327	359	409					.7	2.4		
123	14	61.1	.013	2	2.68	100.1	93.4	96.8	10.4	85	101	115	138	163	213	259	316	342	389					.9	2.2		
124	3	62.9	.013	-	2.75	100.1	93.5	96.8	10.0	84	104	123	152	182	220	254	326	358	390					.8	1.7		
125	11	62.0	.009	1	3.02	100.5	93.0	96.8	9.7	87	106	119	140	164	208	253	318	351	395					1.0	1.5		
126	17	63.1	.011	0	2.85	100.2	93.3	96.8	9.5	88	107	121	144	167	211	251	318	349	394					.9	1.7		
127	7	63.3	.018	1	3.06	100.2	93.9	97.1	9.5	89	104	117	140	164	207	244	311	338	388					.7	2.8		
128	9	64.4	-	-	-	100.2	92.3	96.3	10.9	90	103	114	135	158	209	247	312	348	393					1.1	1.9		
129	14	58.7	.014	1	2.53	100.4	93.0	96.7	9.5	87	106	122	147	171	217	259	328	363	406					1.0	1.7		
130	16	60.9	.012	1	2.53	100.1	93.4	96.8	10.1	88	103	117	141	166	211	254	319	351	396					.9	1.9		
131	3	60.5	-	-	2.91	100.2	93.1	96.7	9.6	90	108	120	137	156	204	252	322	352	398					.4	1.1		
132	13	59.7	.005	1	2.09	99.9	93.3	96.6	9.7	88	102	118	143	168	221	272	329	349	389					.8	3.0		
133	11	58.8	.009	0	2.27	100.1	92.4	96.3	9.7	89	106	120	144	168	217	258	319	349	394					.8	1.9		
134	20	60.4	.013	1	2.61	100.4	92.5	96.5	10.1	86	103	117	140	166	212	254	316	348	396					1.0	1.8		
135	8	61.3	.053	1	2.73	100.0	92.3	96.2	9.6	89	104	119	146	174	218	257	332	365	414					.7	3.7		
136	2	62.0	.030	-	3.09	100.3	92.4	96.4	9.9	88	104	116	136	154	194	238	322	364	408					.7	1.8		
AVERAGE		60.8	.017	1	2.73	100.3	92.9	96.6	9.8	88	104	118	142	167	213	255	321	352	395					.8	2.2		
SAMPLES	163																										



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 5 MICHIGAN--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS %	
						RES, ASTM D2699	MOT., ASTM D2700		K+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)											
										PERCENT EVAPORATED											
										IBP	5	10	20	30	50	70	90	95	EP		
154	11	61.4	0.020	2	2.97	99.7	91.9	95.8	10.2	89	103	117	139	162	207	244	303	333	378	0.9	
155	6	62.3	.020	3	3.14	99.9	92.6	96.3	9.7	87	103	119	145	171	216	253	315	345	397	.8	
156	3	-	-	-	-	99.4	92.6	96.0	10.2	87	98	112	136	161	209	248	313	350	400	.8	
157	5	60.2	.013	1	2.93	99.3	92.4	95.9	9.8	87	104	120	145	167	217	264	344	379	428	.8	
158	6	61.8	.010	0	2.64	100.1	92.9	96.5	9.5	91	106	123	149	176	221	258	320	351	388	.9	
159	4	60.2	.020	1	3.10	99.9	92.1	96.0	9.7	89	104	120	143	166	215	258	324	354	396	.4	
160	5	62.6	.023	2	2.83	99.8	92.5	96.2	10.1	88	101	116	142	170	223	261	333	377	424	.7	
161	1	60.2	.027	2	2.78	100.3	91.9	96.1	8.8	88	102	119	148	175	205	250	324	380	424	1.0	
162	11	57.9	.008	1	2.05	99.9	92.6	96.3	9.8	90	104	121	148	177	223	258	320	352	396	.9	
163	1	60.2	.020	2	3.02	99.4	91.2	95.3	10.0	87	102	118	143	170	217	263	341	377	425	.3	
164	11	62.3	.008	1	2.60	99.5	92.9	96.2	10.0	90	102	117	139	163	207	245	310	339	389	.8	
165	5	59.3	.007	1	2.03	100.2	93.3	96.8	9.4	88	108	123	147	174	225	273	336	360	401	.6	
166	8	58.8	.008	1	2.13	99.7	91.9	95.8	9.9	87	103	118	142	166	215	257	318	351	395	.9	
167	16	60.6	.014	1	2.84	99.4	92.3	95.9	9.3	91	106	123	147	170	208	238	290	323	378	.9	
168	4	60.8	.062	2	2.60	100.0	92.3	96.2	9.5	84	100	121	152	182	221	258	336	373	418	.8	
169	1	62.4	.012	1	2.89	99.7	93.4	96.6	9.2	87	100	116	136	159	202	242	303	338	394	1.0	
170	1	60.8	.020	1	3.07	99.4	91.9	95.7	9.2	85	101	119	145	169	216	258	327	359	412	1.0	
AVERAGE		60.7	.018	1	2.73	99.7	92.4	96.1	9.7	88	103	119	144	169	215	255	321	355	403	.8	
SAMPLES	99																			2.0	





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 6 NORTH ILLINOIS--CONTINUED  
 NORTHERN IND., NORTHERN ILL., EASTERN IOWA, AND WIS.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS % #
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---		TEMPERATURE, F (CORRECTED TO 760 MM HG)											
											PERCENT EVAPORATED										
											IBP	5	10	20	30	50	70	90	95	EP	
183	9	60.8	0.014	-	2.96	99.6	92.3	96.0	9.5	91	105	119	140	162	208	246	305	333	379	0.8	1.8
184	7	61.8	.008	-	3.11	99.2	92.3	95.8	9.9	90	104	120	147	174	220	260	318	352	397	.9	2.1
185	4	63.3	.030	1	2.70	99.9	93.1	96.5	10.0	88	104	118	139	161	207	253	321	347	401	1.0	2.8
186	3	57.5	.017	-	2.83	99.5	91.8	95.7	9.0	94	111	128	154	180	225	299	341	380	422	.6	.9
187	3	61.8	.044	-	2.57	99.8	92.2	96.0	8.8	90	111	130	160	188	223	262	329	359	412	.6	1.4
188	3	62.0	.061	-	2.49	99.9	91.9	95.9	9.9	92	106	124	152	177	230	259	330	368	416	.7	1.3
189	3	60.9	.017	-	2.74	99.7	93.1	96.4	9.5	88	105	121	146	175	217	265	336	368	402	.6	1.9
190	7	62.2	.020	-	3.24	99.6	92.2	95.9	8.9	93	109	122	144	166	213	252	331	369	412	1.0	1.6
191	8	57.2	.022	-	1.90	99.9	92.3	96.1	9.7	92	106	124	154	183	227	263	323	356	402	.9	1.9
192	9	62.3	.011	-	2.58	99.0	93.1	96.1	10.3	89	100	118	146	175	217	254	323	353	395	.8	2.2
193	9	60.0	.009	-	2.88	99.2	92.7	96.0	9.3	93	107	123	146	169	205	235	287	318	369	.9	1.8
194	3	62.2	.060	-	2.73	99.8	91.4	95.6	9.6	90	107	123	149	177	223	256	327	367	412	.5	2.0
AVERAGE		61.0	.026	1	2.73	99.6	92.4	96.0	9.5	91	106	123	148	174	218	259	323	356	402	.8	1.8
SAMPLES	68																				





















TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 10 CENTRAL PLAINS--CONTINUED  
NEBR., CENTRAL AND WESTERN

# PREMIUM=PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	DISTILLATION, ASTM D86										RES %	LOSS %
						RES, ASTM D2699	MOT, ASTM D2700	R+M --		TEMPERATURE, F (CORRECTED TO 760 MM HG)											
										PERCENT EVAPORATED											
										IBP	5	10	20	30	50	70	90	95	EP		
317	20	60.7	0.029	1	2.02	99.8	91.8	95.8	8.5	91	111	128	152	175	214	241	299	330	374	0.9	1.2
318	12	63.0	.026	-	2.75	99.4	92.8	96.1	9.2	89	109	123	143	165	209	252	327	359	403	.8	.9
319	1	63.3	.023	0	1.20	97.4	91.0	94.2	7.7	95	121	133	154	174	212	250	328	359	421	1.0	.0
320	3	60.4	.016	-	2.65	100.5	93.5	97.0	9.8	88	103	118	141	164	234	294	340	359	384	.9	1.1
321	3	70.3	-	-	1.10	99.1	92.7	95.9	8.2	92	115	129	150	170	207	233	309	357	420	.2	1.3
322	10	64.9	.028	-	2.37	99.1	92.6	95.9	8.8	91	109	123	144	166	208	244	328	368	410	.9	.8
323	5	65.7	.026	1	2.55	99.0	92.6	95.8	8.8	96	118	132	156	178	213	245	332	376	417	.9	.6
324	3	63.0	.024	-	1.70	100.5	92.7	96.6	9.5	89	108	120	135	155	203	241	305	347	396	.6	1.4
325	8	63.4	.022	1	2.69	99.4	92.4	95.9	9.2	86	108	123	148	173	215	256	334	372	405	.9	1.5
326	19	64.1	.034	1	2.27	99.0	92.3	95.7	8.2	93	110	124	142	162	211	246	318	361	406	1.0	1.1
327	6	59.7	.020	-	2.71	99.7	93.2	96.5	9.0	90	112	127	147	174	223	264	333	363	403	1.0	1.1
328	6	63.1	.021	-	2.24	99.1	92.6	95.9	9.0	88	108	121	140	161	208	245	328	370	418	.8	.8
329	11	61.2	-	-	2.59	98.7	92.4	95.6	9.2	89	106	124	153	182	222	259	320	352	392	.9	1.6
330	3	64.3	.013	-	3.00	100.4	93.5	97.0	8.6	97	112	122	139	155	194	241	312	351	396	.5	.5
331	12	63.1	.024	-	2.52	99.5	92.7	96.1	8.7	90	110	124	145	167	212	248	330	365	408	.9	.9
332	13	59.8	.023	2	2.73	99.3	92.0	95.7	8.5	91	110	124	147	170	213	252	325	363	410	.8	1.1
333	3	60.3	.008	-	2.80	100.1	92.4	96.3	9.0	82	102	114	134	157	218	279	337	365	400	.9	1.1
334	3	57.2	.019	-	3.20	100.9	93.2	97.1	9.2	90	106	121	146	174	230	266	319	342	388	.7	1.3
335	3	63.0	.017	-	1.64	100.6	91.8	96.2	9.1	86	105	118	138	158	206	240	294	326	370	1.0	1.5
336	3	60.4	.017	-	2.81	100.4	93.1	96.8	8.1	84	102	116	139	166	216	259	322	352	382	1.0	1.5
AVERAGE		62.5	.022	1	2.38	99.6	92.6	96.1	8.8	90	109	123	145	167	213	253	322	357	400	.8	1.1
SAMPLES		147																			









TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 12 SOUTH TEXAS--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER				RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS %   %	
						RES, ASTM D2699	MOT, ASTM D2700				R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)											
							2	2	2			PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
393	7	59.9	0.016	-	3.26	99.5	92.7	96.1	9.3	92	109	123	141	161	208	255	326	347	384	1.0	1.1		
394	3	57.5	-	-	3.49	100.2	92.7	96.5	8.4	88	111	132	160	184	223	259	325	351	396	.9	1.1		
395	9	56.7	.012	-	3.20	99.9	92.3	96.1	8.9	92	114	130	159	185	224	264	328	354	394	1.0	1.2		
396	3	57.4	-	-	3.41	100.0	92.4	96.2	8.8	90	111	130	158	182	221	258	319	347	383	.9	1.1		
397	3	61.0	-	-	3.96	99.7	91.0	95.4	9.0	90	108	123	141	162	215	256	305	325	380	.7	1.3		
398	10	62.2	.010	-	1.71	100.7	92.6	96.7	8.2	97	112	126	143	160	204	239	286	313	347	1.0	1.2		
399	9	59.2	.016	-	3.38	100.2	92.0	96.1	9.0	97	113	127	147	167	209	250	325	351	395	.9	1.2		
400	6	63.6	-	-	2.16	99.9	93.0	96.5	9.4	92	106	119	136	157	210	244	307	340	385	1.0	1.3		
401	6	61.6	.012	-	3.05	99.8	93.3	96.6	8.6	96	117	133	156	180	220	255	324	357	401	1.2	.8		
402	4	55.5	.001	-	3.13	100.2	93.0	96.6	8.8	96	109	122	143	166	230	277	327	349	393	.9	1.1		
403	3	60.6	-	-	3.28	99.7	92.3	96.0	8.6	93	111	127	147	167	211	250	313	339	386	.8	1.2		
404	9	56.8	.014	-	2.96	100.0	92.5	96.3	8.7	95	112	129	152	175	225	268	317	342	387	1.0	1.3		
405	10	58.4	.014	-	2.95	100.3	92.5	96.4	8.4	96	115	130	152	175	217	254	308	332	375	1.0	1.1		
406	3	60.7	-	-	3.36	100.3	92.3	96.3	8.8	106	116	128	151	174	219	258	316	345	395	.9	1.1		
AVERAGE	85	59.4	.012	-	3.09	100.0	92.5	96.3	8.8	94	112	127	149	171	217	256	316	342	386	.9	1.2		





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 13 SOUTH MT. STATES--CONTINUED  
SW KANS., OKLA. AND TEX. PANHANDLES, W. TEX., N. MEX., COLO., UTAH, ARIZ., NEV., AND E. CALIF.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS % %		
						RES, ASTM D2699	MOT, ASTM D2700		R+M --	TEMPERATURE, F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED											
											IBP											
												5	10	20	30	50	70	90	95		EP	
423	6	61.0	-	-	2.37	98.5	90.7	94.6	8.5	96	119	133	157	180	227	264	337	374	420	1.1	0.7	
424	10	59.7	0.036	1	1.78	97.3	89.6	93.5	8.2	97	117	134	159	184	231	277	337	365	404	1.0	1.0	
425	24	59.8	.021	1	2.73	99.1	91.6	95.4	8.2	95	113	130	153	176	222	260	327	365	402	1.0	1.4	
426	16	61.5	.020	1	2.50	97.8	90.9	94.4	8.5	98	117	131	153	174	217	264	330	365	403	1.0	.8	
427	25	61.5	.025	3	2.77	99.3	92.9	96.1	7.7	99	118	132	154	177	220	255	327	368	401	.9	.9	
428	12	62.6	.040	1	3.15	99.9	92.3	96.1	8.7	96	114	126	148	173	221	260	337	370	409	.9	1.0	
429	3	57.6	-	-	3.02	97.5	88.6	93.1	8.2	96	116	130	150	173	221	267	350	387	426	1.2	1.3	
430	2	63.3	-	-	2.85	99.0	93.1	96.1	-	-	-	-	-	-	-	-	-	-	-	-	-	
431	21	64.4	.030	-	1.96	98.6	91.6	95.1	7.9	100	119	131	148	168	213	246	321	363	397	1.0	.9	
432	12	66.2	-	-	2.72	98.9	93.2	96.1	8.7	97	116	130	153	176	217	252	338	382	414	.9	.9	
433	19	58.0	.023	1	2.89	99.6	92.7	96.2	7.6	102	123	135	159	183	223	256	318	351	391	1.0	.7	
434	3	60.6	-	-	2.32	97.0	89.0	93.0	8.5	96	116	130	151	175	220	267	330	360	414	1.1	.9	
435	24	62.3	.025	1	2.71	98.8	92.3	95.6	8.2	96	119	132	154	178	220	255	334	372	415	1.0	.8	
436	25	63.6	.025	2	2.28	99.0	92.7	95.9	7.9	97	116	134	156	179	220	260	328	364	402	1.0	1.2	
437	41	61.1	.018	2	2.62	98.8	91.6	95.2	7.6	100	119	135	157	178	219	259	320	352	389	.9	1.1	
438	15	58.4	.022	0	2.80	99.1	91.2	95.2	8.2	95	113	131	154	178	223	267	337	377	420	1.0	1.7	
AVERAGE		61.4	.026	1	2.59	98.6	91.5	95.1	8.2	97	117	132	154	177	221	261	331	368	407	1.0	1.0	
SAMPLES	258																					



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 14 NORTH MT. STATES--CONTINUED  
WYO., MONT., IDAHO, EASTERN WASH., AND EASTERN OREG.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	DISTILLATION, ASTM D86												RES LOSS % %
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---2		TEMPERATURE, F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED											
											IBP	5	10	20	30	50	70	90	95	EP		
452	6	64.2	0.030	0	2.65	99.8	89.9	94.9	9.6	94	109	125	151	175	212	241	307	350	395	0.9	1.4	
453	4	65.8	.020	1	2.26	100.1	93.5	96.8	9.4	92	112	124	148	171	215	239	318	364	407	1.1	.7	
454	11	64.6	.010	2	2.16	98.5	91.5	95.0	8.8	97	115	131	157	182	221	256	334	375	406	1.1	1.4	
455	9	64.4	.040	0	2.65	99.5	89.6	94.6	9.8	93	112	126	150	173	211	241	311	350	394	1.1	1.2	
456	6	65.5	-	-	1.91	99.4	91.8	95.6	9.4	91	111	126	152	176	212	242	321	363	407	1.1	1.2	
457	6	63.9	-	-	1.88	98.9	92.4	95.7	9.3	90	109	128	158	185	222	257	326	364	409	1.0	.8	
458	13	61.6	.020	0	2.22	98.8	91.1	95.0	10.1	94	109	126	154	181	225	261	333	373	407	1.1	2.1	
459	4	64.5	.040	2	2.92	100.6	91.1	95.9	9.4	91	110	125	152	178	214	241	309	350	399	1.0	2.1	
460	4	66.1	.010	2	2.25	100.1	93.0	96.6	9.9	89	110	122	144	170	208	240	310	349	402	1.1	1.5	
461	6	68.6	.010	1	2.68	99.5	93.6	96.6	8.5	101	119	131	149	168	209	242	301	336	363	1.2	1.1	
462	11	64.4	.040	3	2.66	99.4	90.2	94.8	9.5	97	113	127	150	173	214	245	310	353	391	1.1	1.2	
463	7	64.7	.010	0	2.09	99.0	92.3	95.7	9.0	92	111	128	152	174	214	241	315	357	400	1.1	1.6	
464	3	65.3	-	-	2.40	100.1	93.4	96.8	9.0	91	115	130	155	180	217	248	318	363	412	.9	1.1	
AVERAGE		64.9	.023	1	2.36	99.5	91.8	95.7	9.4	93	112	127	152	176	215	246	316	357	399	1.1	1.3	
SAMPLES	90																					











TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 16 NORTH CALIFORNIA--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS %
						RES, ASTM D2699	MOT., ASTM D2700	R+M ---		TEMPERATURE, °F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED									
										IBP										EP	
											5	10	20	30	50	70	90	95			
495	8	58.3	0.021	1	2.39	100.1	91.6	95.9	8.1	96	113	132	157	180	221	260	329	361	397	1.0	1.8
496	4	55.6	-	-	2.35	100.3	92.1	96.2	8.4	93	117	135	161	190	232	277	338	360	390	.8	1.2
497	5	61.3	.013	0	2.01	100.3	92.2	96.3	8.6	92	111	126	150	173	212	245	318	347	389	.9	1.4
498	1	51.6	.010	0	2.53	100.2	92.3	96.3	8.1	96	118	135	168	198	247	283	328	350	392	1.0	1.0
499	1	-	-	-	2.21	99.2	90.0	94.6	8.6	104	-	139	164	-	234	-	342	-	392	-	-
500	8	56.0	.014	1	2.23	100.4	91.3	95.9	8.3	95	117	135	162	188	232	273	336	365	390	.9	1.5
501	3	55.1	-	-	2.22	100.4	91.8	96.1	8.4	96	120	136	163	190	235	277	337	363	392	.9	1.1
502	8	55.9	.023	2	2.18	100.3	91.3	95.8	7.8	97	116	133	157	180	223	264	326	360	406	1.0	1.7
503	2	56.8	-	-	3.42	99.4	91.2	95.3	9.4	90	113	126	148	170	212	255	324	360	406	.9	1.1
504	8	56.9	.014	2	2.69	100.1	91.3	95.7	8.4	95	115	131	154	173	214	255	317	349	391	1.0	1.5
505	8	56.9	.019	3	2.95	99.9	91.4	95.7	8.0	95	116	131	150	169	210	253	314	348	398	1.0	1.3
506	8	59.0	.013	1	2.10	100.2	91.6	95.9	8.3	94	111	127	150	174	217	257	320	349	394	1.0	1.7
507	8	55.5	.015	1	3.27	99.7	91.5	95.6	8.5	95	113	130	155	180	224	268	333	369	418	1.0	1.7
AVERAGE		56.6	.016	1	2.50	100.0	91.5	95.8	8.4	95	115	132	157	180	224	264	328	357	397	1.0	1.4
SAMPLES	72																				



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1971  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 17 SOUTH CALIFORNIA--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS %	
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---		TEMPERATURE, F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED											
											IBP											
												5	10	20	30	50	70	90	95	EP		
519	8	56.8	0.025	1	2.96	100.3	92.1	96.2	8.2	94	112	127	150	176	227	266	321	347	392	1.0	1.4	
520	3	52.7	-	-	1.95	99.9	91.4	95.7	8.6	96	120	147	178	203	240	275	324	350	408	.9	2.1	
521	4	56.7	.028	-	2.76	100.1	92.1	96.1	8.7	92	113	127	147	169	218	265	330	357	401	.8	.7	
522	3	-	-	-	-	99.7	91.6	95.7	8.9	95	108	122	141	161	210	264	333	367	411	1.0	1.9	
523	6	57.3	.045	2	2.64	100.3	91.8	96.1	9.5	88	105	120	143	168	219	265	335	368	405	.8	1.3	
524	3	55.4	-	-	3.27	100.3	92.3	96.3	8.8	90	112	132	161	187	227	266	337	367	408	1.2	1.8	
525	16	56.8	.030	1	2.91	100.3	91.7	96.0	8.4	96	111	132	157	182	225	264	328	365	402	1.0	1.5	
526	2	55.7	-	-	2.47	100.0	91.9	96.0	8.6	91	114	132	156	180	227	264	313	336	368	.9	1.1	
527	7	56.8	.037	-	2.24	100.2	91.3	95.8	8.4	95	112	128	151	176	220	264	329	363	416	1.0	1.3	
528	12	59.4	.058	2	2.95	100.1	91.3	95.7	8.5	96	113	124	143	161	204	249	318	355	403	1.0	1.2	
529	9	60.3	.035	2	2.69	100.1	91.6	95.9	8.5	94	112	127	150	173	220	264	319	355	398	1.0	1.4	
530	10	55.6	.033	2	3.43	99.7	91.4	95.6	8.4	93	111	125	148	173	226	278	354	393	431	1.0	1.2	
AVERAGE		56.7	.036	2	2.75	100.1	91.7	95.9	8.6	93	112	129	152	176	222	265	328	360	404	1.0	1.4	
SAMPLES	83																					



**TABLE 4. - MOTOR GASOLINE SURVEY, SUMMER 1971**  
**AVERAGE DATA FOR BRANDS IN EACH DISTRICT**

[illegible]



TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1971  
DATA FOR SOME ADDITIONAL GRADES

## THIRD-GRADE GASOLINE

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86																	RES % LOSS	
						RES, ASTM D2699	MOT, ASTM D2700		R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED																
											IBP																
												5	10	20	30	50	70	90	95	EP							
1 531	1	54.4	-	-	.00	90.1	82.8	86.5	8.4	94	112	127	151	179	236	289	330	355	387	0.5	0.5						
1 532	2	57.4	0.010	1	.03	91.4	83.0	87.2	10.6	88	100	114	136	162	220	274	327	351	402	1.0	2.3						
1 533	2	60.0	-	-	.52	96.0	86.3	91.2	10.4	93	96	114	137	153	210	266	325	360	393	1.0	2.0						
1 534	7	58.8	.021	1	.55	91.8	83.9	87.9	9.8	88	103	119	142	170	222	284	351	381	415	1.0	2.4						
1 535	1	59.3	.033	1	1.31	93.6	85.5	89.6	9.8	86	100	116	138	159	207	264	334	366	406	1.0	2.0						
1 536	5	59.4	.009	0	.01	91.7	83.7	87.7	8.8	92	108	121	141	167	223	266	324	348	392	.9	1.6						
1 537	1	57.0	-	-	.43	93.6	86.0	89.8	9.2	94	111	124	146	170	228	275	321	344	384	.5	1.0						
1 538	1	59.8	.022	1	1.49	92.7	85.3	89.0	9.5	67	101	117	138	160	215	286	358	388	425	1.0	2.0						
2 539	11	60.4	.044	1	.02	92.9	83.2	88.1	10.2	87	104	116	137	161	212	267	320	343	372	1.0	1.7						
2 540	7	58.0	.007	1	.02	91.7	83.5	87.6	11.7	87	95	108	129	155	218	275	328	351	401	1.0	3.2						
2 541	1	61.3	-	-	.42	97.3	86.7	92.0	11.6	82	-	109	132	-	197	-	311	-	397	1.0	3.0						
2 542	17	59.2	.018	0	.58	91.7	83.8	87.8	9.1	90	107	122	147	171	224	281	351	380	413	.8	2.1						
2 543	14	58.7	.004	1	.01	92.0	84.2	88.1	8.8	94	110	124	147	173	225	264	324	350	392	.9	1.7						
2 544	4	58.3	.022	0	.43	94.5	85.4	90.0	9.3	85	109	120	141	164	215	272	329	355	406	.9	1.9						
2 545	7	58.4	.027	2	1.14	92.9	84.9	88.9	9.7	87	103	115	134	156	214	287	359	388	419	.9	1.6						
2 546	8	59.8	.014	1	.47	94.1	85.3	89.7	9.5	93	113	125	147	171	220	261	315	340	385	1.1	1.5						
3 547	4	58.6	.010	1	.03	92.7	83.0	87.9	9.6	91	106	117	135	155	204	281	330	353	379	1.0	2.2						
3 548	1	61.2	-	-	2.34	93.5	87.3	90.4	9.6	86	107	122	144	164	208	258	330	360	428	1.0	.5						
3 549	9	61.9	.045	2	.53	91.6	84.6	88.1	9.0	89	105	118	137	157	203	253	323	352	397	1.1	1.3						
3 550	8	58.4	.003	1	.01	92.0	84.1	88.1	9.2	91	112	123	148	181	223	268	326	356	396	1.0	1.9						
3 551	10	62.9	.017	1	.03	91.7	83.7	87.7	8.4	95	113	127	146	163	197	233	320	357	414	1.0	1.9						
3 552	1	59.3	.030	2	1.85	93.0	85.1	89.1	9.6	91	104	119	138	158	210	280	358	386	422	1.0	2.0						
3 553	2	58.6	.010	0	.60	94.8	86.0	90.4	10.3	95	112	126	151	176	223	261	315	339	378	1.0	2.3						
4 554	1	59.4	.016	1	.05	91.7	83.9	87.8	10.3	85	101	113	135	157	212	276	330	355	388	1.0	2.5						
4 555	9	57.7	.027	2	.02	91.7	84.0	87.9	10.0	85	100	116	142	170	229	282	338	363	410	.9	2.1						
4 556	2	55.8	.010	2	.48	96.7	87.3	92.0	10.2	87	100	113	140	169	220	253	304	331	375	1.0	4.0						



TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1971  
DATA FOR SOME ADDITIONAL GRADES--CONTINUED

THIRD-GRADE GASOLINE--CONTINUED

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS %	
						RES, ASTM D2699	MOT., ASTM D2700		R+M --- 2	TEMPERATURE, F (CORRECTED TO 760 MM HG)											
										PERCENT EVAPORATED											
										IBP	5	10	20	30	50	70	90	95	EP		
4 557	14	59.5	.026	1	.51	91.6	84.3	88.0	9.7	87	104	117	141	165	217	274	342	370	407	.9	2.6
4 558	4	60.6	.041	0	.01	92.5	84.3	88.4	9.5	84	100	116	140	166	220	265	345	382	417	1.0	2.3
4 559	11	58.2	.023	1	.10	92.2	84.5	88.4	9.1	90	110	125	150	174	218	260	322	348	393	.8	2.2
4 560	12	57.5	.017	1	.01	92.2	83.1	87.7	9.2	90	110	125	148	170	219	270	328	351	386	.8	2.0
4 561	6	58.8	.013	2	.73	92.5	84.6	88.6	9.1	86	106	120	142	163	212	271	340	368	410	1.0	2.6
4 562	3	62.2	.016	1	.67	93.9	85.7	89.8	10.0	84	101	114	137	160	205	246	303	331	386	.9	3.3
5 563	5	62.3	.043	2	.02	91.4	83.1	87.3	11.5	85	97	110	132	157	207	246	305	330	381	.7	2.8
5 564	4	58.2	.047	0	.09	91.9	84.2	88.1	8.3	93	111	130	160	190	236	280	348	378	418	1.0	2.6
5 565	1	59.7	.016	2	.48	94.0	86.6	90.3	9.5	78	100	116	141	167	216	263	337	368	418	1.0	4.0
5 566	3	61.3	.030	1	.43	90.5	83.8	87.2	9.6	86	109	122	144	168	215	259	331	365	410	.7	.9
5 567	1	59.2	.010	1	.28	91.4	82.2	86.8	9.2	90	111	126	149	172	219	268	327	356	423	.7	.8
5 568	4	61.5	.031	2	.03	92.9	84.3	88.6	10.5	83	99	113	138	165	221	271	349	384	431	.7	2.1
5 569	5	56.7	.014	3	.08	92.2	84.1	88.2	8.8	94	117	134	161	186	226	267	327	357	410	.9	1.6
5 570	2	61.1	.002	1	.45	94.2	87.5	90.9	9.4	89	110	122	145	168	211	249	310	337	375	1.0	2.0
5 571	5	57.9	.009	1	.02	92.1	82.7	87.4	8.8	94	112	126	147	168	215	267	327	350	384	.8	1.7
5 572	3	59.7	.019	1	1.55	92.7	85.4	89.1	10.1	90	103	118	139	161	213	278	357	386	428	.8	2.4
6 573	2	61.8	.044	-	.47	91.4	83.3	87.4	10.0	86	99	112	135	157	205	245	304	327	368	1.0	3.0
6 574	4	59.9	.031	-	.01	91.6	83.1	87.4	10.4	85	94	112	138	169	223	273	346	377	415	1.0	2.6
6 575	3	58.4	.025	-	.00	92.2	84.1	88.2	9.1	88	110	122	144	171	219	268	334	365	400	.8	1.7
6 576	3	58.1	.037	-	.00	92.0	84.4	88.2	7.5	94	113	133	162	186	222	260	322	352	382	1.0	1.0
7 577	6	63.0	.068	-	.00	91.1	83.0	87.1	10.3	89	104	119	138	159	203	245	311	340	389	.5	1.5
7 578	3	60.7	-	-	2.65	93.5	86.5	90.0	9.3	94	110	123	143	162	205	262	342	380	430	1.1	.9
7 579	9	61.4	.042	-	.70	91.9	84.7	88.3	9.5	91	104	119	140	159	207	259	335	365	400	.6	1.1
7 580	6	58.4	.024	-	.00	92.0	83.9	88.0	9.3	92	110	126	151	176	222	268	333	362	403	.6	1.2
7 581	9	59.4	.039	-	.00	91.8	84.0	87.9	9.0	91	113	131	159	182	223	260	322	357	407	.7	1.2
7 582	3	62.6	-	-	.07	90.8	83.3	87.1	8.3	97	115	127	146	162	212	252	314	354	414	.7	.8

TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1971  
DATA FOR SOME ADDITIONAL GRADES--CONTINUED

## THIRD-GRADE GASOLINE--CONTINUED

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM., ASTM D381 MG	LEAD., ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES % LOSS	
						RES, ASTM D2699	MOT., ASTM D2700		R+M -- 2	TEMPERATURE, F (CORRECTED TO 760 MM HG)											
										PERCENT EVAPORATED											
										IBP	5	10	20	30	50	70	90	95	EP		
8 583	5	58.0	-	-	.00	92.3	83.6	88.0	9.9	87	102	114	135	158	213	272	335	359	404	.8	1.0
8 584	6	60.8	-	-	2.87	94.3	86.8	90.6	9.1	92	112	125	146	166	206	257	334	369	419	.8	1.0
8 585	9	60.2	-	-	.51	91.5	84.7	88.1	8.9	90	107	119	140	160	209	257	320	347	396	.9	1.1
8 586	9	59.3	-	-	.00	91.8	83.9	87.9	8.6	92	109	126	156	184	231	271	332	359	401	1.0	1.2
8 587	3	63.6	-	-	.00	92.0	83.7	87.9	9.5	86	109	122	142	161	197	230	316	357	400	1.0	1.0
8 588	2	59.3	-	-	.67	93.8	85.6	89.7	9.1	90	109	127	154	177	218	252	301	328	382	.7	1.1
9 589	2	62.4	-	-	.00	91.1	80.8	86.0	10.9	82	105	118	138	160	212	250	303	328	370	.8	2.2
9 590	3	61.0	.133	-	.11	91.3	83.3	87.3	6.9	96	118	136	162	184	222	263	346	386	412	.8	1.2
9 591	3	64.7	.031	-	.00	91.6	86.0	88.8	8.4	87	108	126	158	191	226	248	315	348	390	.7	2.3
10 592	6	59.9	.090	-	.00	91.4	82.8	87.1	9.4	87	104	119	141	162	211	270	321	342	375	1.0	1.3
10 593	9	62.5	.051	-	2.08	92.8	85.6	89.2	8.9	91	105	119	138	156	197	248	328	365	422	.8	1.1
10 594	3	62.1	.049	-	.50	91.4	84.6	88.0	9.3	90	102	116	136	156	204	256	328	358	396	.7	2.3
10 595	6	57.2	.072	-	.00	91.9	83.7	87.8	7.5	94	120	137	161	184	231	270	322	349	398	.9	1.2
10 596	3	62.7	.030	-	.00	91.2	83.4	87.3	7.6	92	112	124	146	164	198	236	324	366	408	.8	1.7
11 597	5	61.2	.040	-	2.87	93.4	86.9	90.2	9.3	91	106	120	140	160	202	260	340	370	420	1.2	.8
11 598	3	61.6	.047	-	.52	91.5	84.5	88.0	8.2	92	113	125	143	160	208	256	325	355	394	1.0	.5
11 599	2	58.5	.010	-	.00	92.2	84.6	88.4	8.4	89	110	125	148	174	225	262	314	343	387	.9	.1
11 600	6	62.7	.018	-	.42	93.6	86.2	89.9	9.5	90	110	127	150	175	214	244	300	330	379	.9	.7
12 601	4	58.6	.010	-	.01	91.3	84.4	87.9	9.9	91	106	120	144	167	224	262	323	350	392	1.0	1.5
12 602	4	59.9	.032	-	2.91	94.7	87.5	91.1	8.6	98	123	135	154	173	215	265	327	360	400	1.4	.6
12 603	7	59.5	.049	-	.42	91.5	84.1	87.8	8.8	96	111	125	142	161	209	258	321	357	400	.9	1.2
12 604	4	58.1	.004	-	.00	91.9	84.0	88.0	8.0	92	110	124	148	174	232	272	322	350	390	1.1	1.5
12 605	4	60.1	.012	-	.44	94.3	86.1	90.2	8.0	97	112	126	149	168	210	248	302	327	375	.9	1.4
13 606	6	58.6	-	-	.00	89.2	81.0	85.1	9.3	92	113	126	151	175	227	278	338	367	400	1.1	1.0
13 607	3	55.5	.030	-	.00	90.8	82.1	86.5	9.0	94	107	112	148	177	239	289	346	368	410	.8	1.2
13 608	12	61.2	-	-	2.20	91.6	85.2	88.4	8.1	98	119	131	148	164	204	256	339	376	426	1.0	.8



TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1971  
DATA FOR SOME ADDITIONAL GRADES--CONTINUED

THIRD-GRADE GASOLINE--CONTINUED

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	TEMPERATURE, F (CORRECTED TO 760 MM HG)											RES LOSS % X	
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---		PERCENT EVAPORATED												
										1BP	5	10	20	30	50	70	90	95	EP			
13 609	2	60.7	-	-	.47	94.4	87.3	90.9	6.6	105	-	134	158	-	219	-	324	-	384	-	-	
13 610	12	58.3	.025	-	.00	91.4	82.9	87.2	8.0	99	116	134	157	180	227	266	325	355	398	1.0	1.1	
13 611	7	58.5	.041	-	.01	90.5	82.7	86.6	7.5	95	121	136	161	185	228	270	337	371	419	1.0	1.0	
13 612	2	57.8	-	-	.52	91.1	85.6	88.4	10.1	88	118	139	178	210	240	270	326	353	410	.5	.5	
14 613	3	60.8	.016	-	.00	90.2	80.5	85.4	10.1	92	107	122	147	173	217	250	295	317	362	.9	2.1	
14 614	3	61.4	-	-	1.57	92.0	84.9	88.5	9.2	90	109	121	141	161	204	252	323	357	406	1.2	1.3	
14 615	3	61.4	-	-	.00	90.4	82.3	86.4	9.3	90	106	126	154	179	222	258	318	352	398	.8	1.7	
14 616	3	61.0	-	-	.00	91.0	82.7	86.9	7.9	96	122	135	156	176	217	256	313	346	396	1.0	1.0	
15 617	2	56.0	-	-	.00	90.8	82.1	86.5	8.0	96	116	131	158	185	236	285	344	374	413	.9	1.1	
15 618	3	60.2	-	-	.00	91.6	83.7	87.7	9.0	95	118	131	156	180	221	260	328	370	408	.9	.1	
15 619	3	63.2	-	-	.00	90.3	82.9	86.6	7.0	102	124	136	150	166	198	235	314	350	410	1.1	.9	
16 620	6	56.1	.040	1	.02	91.3	82.4	86.9	8.7	94	112	126	152	179	232	283	336	365	406	1.0	.8	
16 621	2	59.7	-	-	1.07	92.7	83.0	87.9	9.0	96	104	127	147	164	214	265	328	356	394	.8	1.2	
16 622	6	57.7	.010	4	.01	91.8	84.1	88.0	8.1	94	113	128	153	176	216	257	325	353	398	1.0	1.3	
16 623	2	59.4	-	-	1.66	92.8	85.7	89.3	9.2	92	114	126	146	165	203	247	321	359	410	1.1	.9	
16 624	2	57.6	-	-	.60	94.6	87.0	90.8	8.2	108	-	134	150	-	204	-	304	-	396	-	-	
16 625	6	60.1	.010	1	.01	90.8	82.2	86.5	7.5	100	120	131	147	164	198	239	320	350	401	1.0	1.0	
16 626	3	55.5	.074	-	.61	94.8	84.6	89.7	-	87	103	121	147	175	236	294	342	377	419	1.0	1.5	
17 627	5	57.8	.020	1	.02	91.5	83.1	87.3	7.8	99	120	133	155	176	223	265	322	346	393	1.0	1.0	
17 628	1	58.5	-	-	1.65	91.0	84.6	87.8	9.7	94	111	128	153	176	220	270	338	366	402	1.1	1.9	
17 629	8	57.4	.120	3	.03	91.5	83.7	87.6	8.2	97	120	133	155	178	220	260	329	362	408	.9	1.1	
17 630	2	59.4	-	-	2.55	91.4	84.9	88.2	9.0	90	112	126	151	175	228	288	358	380	403	.9	1.1	
17 631	7	57.8	.070	1	.16	91.8	83.1	87.5	7.5	99	121	133	150	168	211	260	317	345	396	1.0	1.0	
17 632	5	55.9	.010	1	.07	91.4	83.1	87.3	9.1	94	112	129	156	185	228	265	316	340	390	.9	1.4	
17 633	1	55.5	.010	1	.58	94.0	86.0	90.0	8.7	99	125	128	149	174	225	280	355	383	420	1.1	.9	
AVERAGE		59.5	.030	1	.65	92.3	84.3	88.3	9.1	91	109	123	146	169	216	264	327	357	400	.9	1.6	
SAMPLES	495																					







TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1971  
ANALYSES OF LOW-LEAD CONTENT GASOLINE

DISTRICT	CITY	SAMPLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER				RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS %
							RES, ASTM D2699	MOT, ASTM D2700	KRN ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED										EP	
												IBP	10 20 30 50 70 90 95					387					
													5	10	20	30	50		70	90	95		
1	BOSTON	1	54.4	-	-	0.00	90.1	82.8	86.5	8.4	94	112	127	151	179	236	289	330	355	387	0.5	0.5	
1	BOSTON	1	57.0	-	-	.43	93.6	86.0	89.8	9.2	94	111	124	146	170	228	275	321	344	384	.5	1.0	
1	BOSTON	1	60.8	0.017	-	.53	94.2	85.4	89.8	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	BOSTON	4	51.2	.016	2	.00	101.6	90.7	96.2	9.4	88	103	123	155	192	239	268	315	337	381	.8	2.0	
1	BOSTON	2	57.4	.010	1	.03	91.4	83.0	87.2	10.6	88	100	114	136	162	220	274	327	351	402	1.0	2.3	
1	BOSTON	2	60.7	.016	2	.61	96.7	86.9	91.8	10.5	87	102	114	133	155	205	257	306	325	357	1.0	1.5	
1	BOSTON	5	57.5	.021	1	.52	91.8	83.9	87.9	9.3	88	104	120	147	174	226	287	352	377	419	1.0	2.7	
1	BOSTON	3	60.1	.022	-	.51	96.9	86.6	91.8	10.7	92	102	115	136	159	215	257	305	327	378	.3	1.7	
1	BOSTON	4	59.0	.009	0	.01	91.7	84.0	87.9	8.6	95	113	125	142	166	223	266	320	344	387	.8	1.5	
1	PORTLAND	1	58.1	-	-	.52	96.8	85.5	91.2	9.8	98	-	119	142	-	213	-	316	-	389	1.0	3.0	
1	PORTLAND	1	62.8	-	-	.66	91.5	84.2	87.9	9.6	90	-	127	140	-	217	-	346	-	408	1.0	3.0	
1	PORTLAND	1	59.4	-	-	.00	92.0	83.8	87.9	9.8	91	-	117	142	-	226	-	333	-	396	1.0	3.0	
2	BALTIMORE	3	53.3	-	-	.04	101.6	91.5	96.6	8.8	91	105	122	148	182	232	265	316	340	374	.5	1.5	
2	BALTIMORE	2	62.6	-	-	.55	95.7	86.3	91.0	10.8	90	99	113	135	161	213	259	333	362	408	.3	1.7	
2	BALTIMORE	3	61.3	-	-	.62	92.1	84.5	88.3	8.8	95	112	123	140	157	207	259	331	371	412	.7	.8	
2	BALTIMORE	3	57.7	-	-	.50	97.1	86.7	91.9	9.3	93	106	120	139	158	207	252	309	339	390	.4	1.1	
2	BALTIMORE	3	58.6	-	-	.00	92.4	84.4	88.4	8.1	93	105	123	150	178	233	266	319	350	398	.5	1.0	
2	NEW YORK	1	57.0	.000	1	.05	91.0	83.0	87.0	11.2	105	110	120	138	163	233	282	333	359	407	1.2	1.8	
2	NEW YORK	1	60.9	.014	1	.47	97.3	86.2	91.8	9.6	99	109	119	137	155	197	241	312	340	377	1.0	3.5	
2	NEW YORK	1	57.1	.011	0	.44	94.6	86.6	90.6	9.7	90	108	120	143	167	228	274	322	353	389	1.0	2.5	
2	NEW YORK	3	59.9	.000	0	.02	93.4	82.9	88.2	10.5	91	106	118	143	172	224	263	314	334	372	1.0	1.5	
2	NEW YORK	4	55.0	.040	1	.00	101.5	91.6	96.6	9.5	93	111	122	144	172	222	264	322	345	369	.9	1.1	
2	NEW YORK	4	58.8	.000	1	.01	92.1	84.5	88.3	8.5	98	115	129	150	175	230	265	319	341	384	1.0	1.5	
2	NEW YORK	4	58.2	.011	0	.49	91.3	83.7	87.5	9.2	86	107	122	148	172	224	285	351	381	416	1.0	2.0	
2	NEW YORK	3	61.0	-	1	.54	97.2	86.6	91.9	9.1	94	110	122	141	160	198	240	304	330	384	.7	1.3	
2	NEW YORK	4	59.8	.040	1	.57	96.3	86.3	91.3	9.9	91	108	121	141	164	217	271	333	356	393	1.1	1.4	
2	NEW YORK	5	60.5	.005	1	.44	94.1	85.4	89.8	9.4	94	114	125	146	170	221	259	310	335	375	1.1	1.4	



TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1971  
ANALYSES OF LOW-LEAD CONTENT GASOLINE--CONTINUED

DISTRICT	CITY	SAMPLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVF, ASTM D323 LB	TEMPERATURE, F (CORRECTED TO 760 MM HG)											RES LOSS % %
							RES, ASTM D2699	HTU, ASTM D2700	M+W ---		IBP	5	10	20	30	50	70	90	95	EP	
2	PHILADELPHIA	1	58.0	-.068	-	.33	91.5	83.3	87.4	10.2	82	101	113	134	156	207	262	319	346	369	-
2	PHILADELPHIA	4	62.5	.006	1	.03	93.3	83.3	88.3	9.6	85	100	117	147	182	235	267	322	346	374	1.0 1.8
2	PHILADELPHIA	4	53.1	.006	1	.03	101.6	91.3	96.5	9.6	85	100	117	147	182	235	267	322	346	374	.7 1.4
2	PHILADELPHIA	6	58.2	.009	1	.02	91.8	83.6	87.7	11.9	83	91	105	127	154	214	273	326	349	400	1.0 3.5
2	PHILADELPHIA	3	61.0	.018	1	.54	96.9	86.6	87.5	10.5	82	99	109	133	159	210	254	311	334	369	1.0 2.0
2	PHILADELPHIA	5	57.8	.022	1	.57	91.7	83.3	87.8	9.4	92	105	124	148	177	232	290	358	384	419	1.5 2.6
2	PHILADELPHIA	3	60.8	-.044	-	.44	96.7	86.5	91.6	10.5	92	105	119	141	163	216	268	325	349	382	.4 1.1
2	PHILADELPHIA	3	59.1	.006	1	.03	92.0	84.1	88.1	9.0	88	106	122	145	170	223	260	320	348	386	.8 1.3
2	PHILADELPHIA	2	58.1	.033	0	.38	94.2	84.4	89.3	9.1	85	110	122	141	162	214	272	333	356	412	.8 1.5
2	PHILADELPHIA	2	58.5	.040	1	.53	94.0	85.5	89.8	9.7	90	109	121	144	166	218	276	335	362	411	1.0 2.0
2	RICHMOND	1	59.1	-.068	-	.68	94.2	86.5	90.4	-	-	-	-	-	-	-	-	-	-	-	-
2	RICHMOND	3	58.1	-	-	.00	92.4	83.4	87.9	10.0	88	102	115	134	156	210	280	330	350	372	1.0 1.0
2	RICHMOND	3	51.9	-	-	.00	101.7	91.7	96.7	10.0	86	102	118	144	180	234	266	318	342	372	.6 2.4
2	RICHMOND	3	61.9	-.055	-	.40	91.7	84.5	88.1	9.0	90	109	122	140	160	204	256	327	364	392	.5 1.0
2	RICHMOND	3	56.7	-	-	.40	96.7	87.1	91.9	9.5	86	106	120	146	179	232	268	318	344	388	.8 1.2
2	RICHMOND	3	58.3	-.000	-	.00	91.4	83.6	87.5	9.0	90	108	122	146	170	218	266	346	377	414	.9 1.1
2	RICHMOND	2	56.9	-.048	-	.48	92.4	84.1	88.3	9.5	86	104	118	138	160	223	295	360	388	412	1.0 1.0
2	SYRACUSE	1	61.3	-	-	.42	97.3	86.7	92.0	11.6	82	-	109	132	-	197	-	311	-	397	1.0 3.0
2	SYRACUSE	1	59.5	-	-	.00	92.0	83.8	87.9	9.2	94	-	117	139	-	218	-	321	-	387	1.0 3.0
2	SYRACUSE	1	59.9	-	-	.53	94.9	86.4	90.7	9.2	80	-	114	139	-	206	-	329	-	410	1.0 2.0
2	WASHINGTON	1	60.7	.018	1	.05	92.2	82.7	87.5	9.8	93	109	119	138	159	207	273	324	346	377	1.0 2.5
2	WASHINGTON	1	53.5	.002	0	.05	101.6	90.2	95.9	9.8	89	105	118	147	183	235	264	321	342	367	1.0 3.5
2	WASHINGTON	1	58.3	.012	1	.53	97.0	86.3	91.7	9.7	89	100	115	135	157	206	254	312	335	376	1.0 4.5
2	WASHINGTON	1	58.5	.003	0	.05	92.0	84.3	88.2	8.8	102	114	126	149	172	226	266	324	348	387	1.0 1.5
2	WASHINGTON	1	59.0	.008	0	.51	94.0	84.7	89.4	9.3	92	113	127	153	178	219	252	308	336	389	1.0 1.5
3	ATLANTA	1	58.1	.011	1	.05	92.6	82.9	87.8	9.3	94	109	119	139	161	214	279	331	356	383	1.0 2.0
3	ATLANTA	1	53.3	-.038	-	.38	96.9	87.6	92.3	-	-	-	-	-	-	-	-	-	-	-	-
3	ATLANTA	1	58.9	.009	0	.75	95.0	86.7	90.9	9.8	94	109	123	150	178	230	270	327	352	390	1.0 2.5
3	ATLANTA	4	55.4	.003	1	.01	101.7	93.2	97.5	9.8	84	105	118	146	179	236	266	317	341	375	.9 1.6
3	ATLANTA	3	62.1	-	-	.53	91.4	84.8	88.1	10.0	90	110	121	139	159	202	255	325	350	392	1.4 .1
3	ATLANTA	3	57.9	-.000	-	.00	91.8	84.0	87.9	9.7	86	110	124	152	180	227	270	333	362	406	1.0 .5
3	ATLANTA	4	63.0	.018	0	.07	92.3	84.3	88.3	8.7	91	113	128	147	164	198	234	314	353	410	1.0 1.8

TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1971  
ANALYSES OF LOW-LEAD CONTENT GASOLINE--CONTINUED

DISTRICT	CITY	SAMPLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS % #		
							RES, ASTM D2699	MOT, ASTM D2700		R+M ---	TEMPERATURE, °F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED											
												18P										EP	
													5	10	20	30	50	70	90	95			
3	BIRMINGHAM	1	57.8	-	-	.00	93.0	83.6	88.3	-	88	103	121	147	180	231	262	313	334	386	.6	.9	
3	BIRMINGHAM	3	53.3	-	-	.00	101.1	91.0	96.1	9.7	91	106	121	139	157	203	249	322	356	405	.9	1.1	
3	BIRMINGHAM	3	62.1	-	-	.53	91.7	84.5	88.1	7.8	90	105	118	142	170	223	261	310	333	406	.8	1.2	
3	BIRMINGHAM	3	55.4	-	-	.42	96.7	86.9	91.8	9.3	99	118	138	168	197	237	277	338	367	418	1.1	.9	
3	BIRMINGHAM	2	57.5	-	-	.00	92.3	84.2	88.3	7.6	98	114	127	146	163	198	233	320	359	410	.9	.6	
3	BIRMINGHAM	3	62.6	-	-	.00	91.8	83.7	87.8	8.2	86	100	116	136	154	202	254	317	350	410	1.0	2.0	
3	JACKSONVILLE	1	61.9	.045	2	.57	91.1	84.1	87.6	9.2	94	110	127	146	163	196	230	317	360	416	1.0	3.0	
3	JACKSONVILLE	1	64.2	.018	2	.00	90.5	82.9	86.7	7.8	76	103	120	155	194	243	267	316	338	366	1.0	4.0	
3	MIAMI	1	49.3	.002	0	.05	101.0	89.3	95.2	10.7	88	103	113	129	148	197	282	327	349	376	1.0	4.0	
3	MIAMI	1	58.8	.009	1	.05	92.0	82.3	87.2	9.5	94	107	121	141	167	222	258	318	340	376	1.0	4.0	
3	MIAMI	1	58.8	.003	1	.05	91.9	84.4	88.2	9.5	94	107	121	141	167	222	258	318	340	376	1.0	4.0	
3	MIAMI	1	62.6	.016	1	.05	90.8	82.9	86.9	8.2	94	114	127	146	163	198	234	327	362	416	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174	215	251	303	325	366	1.0	2.0	
3	MIAMI	1	58.2	.010	0	.45	94.6	85.2	89.9	8.7	96	115	128	151	174								





TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1971  
ANALYSES OF LOW-LEAD CONTENT GASOLINE--CONTINUED

DISTRICT	CITY	SAMPLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS			
							RES, ASTM D2699	MOT, ASTM D2700		R+M ---	TEMPERATURE, °F (CORRECTED TO 760 MM HG)											EP	%	%
											PERCENT EVAPORATED													
											IBP	5	10	20	30	50	70	90	95					
7	LOUISVILLE	1	56.5	-	-	.47	96.9	87.1	92.0	-	94	106	120	142	160	206	260	339	369	400	-	-		
7	LOUISVILLE	3	60.3	-	-	.60	92.1	84.7	88.4	9.4	94	110	125	149	174	217	260	323	351	402	.7	.8		
7	LOUISVILLE	3	59.4	-	-	.00	91.9	83.9	87.9	10.0	94	110	125	149	174	217	260	323	351	402	.6	.9		
7	LOUISVILLE	3	62.4	-	-	.00	91.8	84.0	87.9	9.1	93	117	133	160	185	226	263	326	365	410	.5	1.0		
7	LOUISVILLE	3	62.7	-	-	.07	90.8	83.3	87.1	8.3	97	115	127	146	162	212	252	314	354	414	.7	.8		
7	ST. LOUIS	3	63.7	-	-	.00	90.8	82.8	86.8	9.1	92	108	123	142	159	197	242	316	350	398	.7	.8		
7	ST. LOUIS	3	61.2	-	-	.50	94.8	86.7	90.8	9.5	90	104	120	144	168	217	260	339	373	413	.9	1.1		
7	ST. LOUIS	3	62.2	-	-	.52	91.1	84.5	87.8	9.0	90	104	118	140	158	204	253	328	358	402	.9	1.1		
7	ST. LOUIS	3	58.8	-	-	.00	91.9	84.1	88.0	9.8	87	105	125	151	177	220	259	323	357	412	1.0	1.5		
8	LITTLE ROCK	1	61.8	-	-	.57	91.3	84.9	88.1	8.5	96	113	123	142	160	205	256	323	348	394	.7	1.3		
8	LITTLE ROCK	3	56.8	-	-	.00	101.4	91.4	96.4	8.9	86	104	128	170	210	237	266	324	349	390	.8	1.2		
8	LITTLE ROCK	2	57.7	-	-	.62	96.6	87.1	91.9	8.8	90	107	119	139	162	220	280	324	347	378	1.0	1.0		
8	LITTLE ROCK	3	61.3	-	-	.00	91.7	84.4	88.1	8.6	95	108	122	144	167	222	262	320	346	382	.9	1.1		
8	MEMPHIS	1	58.5	-	-	.48	94.3	87.0	90.7	9.3	87	104	116	137	160	220	274	341	364	420	.9	.6		
8	MEMPHIS	3	54.0	-	-	.00	101.0	91.1	96.1	9.5	86	103	123	151	186	239	266	320	344	381	.9	1.1		
8	MEMPHIS	2	59.5	-	-	.00	92.0	83.5	87.8	10.3	86	100	112	133	155	209	261	335	366	403	1.0	1.0		
8	MEMPHIS	3	58.9	-	-	.39	91.5	84.6	88.1	8.9	89	106	120	142	165	217	262	323	347	405	1.1	.9		
8	MEMPHIS	3	55.5	-	-	.41	96.6	86.6	91.6	9.4	90	103	119	142	166	219	258	315	338	380	.9	1.1		
8	MEMPHIS	3	57.8	-	-	.00	92.0	83.2	87.6	7.9	90	109	130	162	192	236	273	336	362	410	1.1	.9		
8	NEW ORLEANS	1	59.4	-	-	.51	94.3	86.6	90.5	8.3	92	113	133	160	179	215	248	297	322	366	.5	1.0		
8	NEW ORLEANS	3	57.0	-	-	.00	92.6	83.7	88.2	9.5	87	104	116	137	161	217	283	334	352	404	.5	1.0		
8	NEW ORLEANS	3	53.3	-	-	.00	101.1	90.7	95.9	9.4	87	100	120	149	181	251	290	323	347	390	1.0	1.5		
8	NEW ORLEANS	3	59.4	-	-	.44	91.5	84.9	88.2	9.2	84	101	114	135	156	204	252	315	345	390	1.0	1.0		
8	NEW ORLEANS	3	55.4	-	-	.47	96.8	87.8	92.3	9.5	86	101	116	141	169	223	263	311	329	394	.5	1.0		
8	NEW ORLEANS	3	58.9	-	-	.00	91.9	84.0	88.0	9.2	90	111	127	162	192	234	278	341	369	410	1.0	1.5		
8	NEW ORLEANS	3	63.5	-	-	.00	92.0	83.7	87.9	9.5	86	109	122	142	161	197	230	316	357	400	1.0	1.0		
9	MINNEAPOLIS-ST. PAUL	2	62.4	-	-	.00	91.1	80.8	86.0	10.9	82	105	118	138	160	212	250	303	328	370	.8	2.2		
9	MINNEAPOLIS-ST. PAUL	3	60.8	-	-	.42	94.1	86.2	90.2	8.9	86	107	125	154	181	222	268	348	380	410	1.0	1.5		
9	MINNEAPOLIS-ST. PAUL	3	61.0	.133	-	.11	91.3	83.3	87.3	6.9	96	118	136	162	184	222	263	346	386	412	.8	1.2		
9	MINNEAPOLIS-ST. PAUL	3	64.7	.031	-	.00	91.6	86.0	88.8	8.4	87	108	126	158	191	226	248	315	348	390	.7	2.3		

TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1971  
ANALYSES OF LOW-LEAD CONTENT GASOLINE--CONTINUED

DISTRICT	CITY	SAMPLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86											RES LOSS %	
							RES, ASTM D2699	MUT., ASTM D2700		R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)											
											PERCENT EVAPORATED											
											IBP	5	10	20	30	50	70	90	95	EP		
10	DES MOINES	3	58.6	.090	-	.00	92.3	83.9	68.1	9.5	86	101	114	134	154	206	284	334	354	384	.8	1.7
10	DES MOINES	3	53.1	.017	-	.00	101.5	91.0	66.0	10.6	80	98	113	139	174	237	266	324	348	366	.7	1.8
10	DES MOINES	3	62.1	.049	-	.00	91.4	84.6	88.0	9.3	90	102	116	136	156	204	256	328	358	396	.7	2.3
10	DES MOINES	2	60.6	-	-	.41	96.5	85.8	91.2	8.5	86	104	117	138	156	206	256	310	330	380	.7	1.8
10	DES MOINES	6	57.4	.072	-	.00	91.9	83.7	87.8	7.5	94	120	137	161	184	231	270	322	349	398	.9	1.2
10	DES MOINES	3	62.7	.030	-	.00	91.2	83.4	87.3	7.6	92	112	124	146	164	198	236	324	366	408	.8	1.7
10	KANSAS CITY	3	61.1	-	-	.00	90.5	81.8	86.2	9.2	88	107	123	147	170	215	256	307	330	366	1.1	.9
10	UMAHA	2	56.3	-	-	.59	92.5	84.4	88.5	-	-	-	-	-	-	-	-	-	-	-	-	-
11	DALLAS-FT. WORTH	1	60.0	.042	-	.85	92.6	83.9	88.3	9.2	94	114	127	146	161	210	270	352	388	425	1.0	1.0
11	DALLAS-FT. WORTH	3	61.6	.047	-	.52	91.5	84.5	88.0	8.2	92	113	125	143	160	208	256	325	355	394	1.0	.5
11	DALLAS-FT. WORTH	3	59.2	.023	-	.50	96.7	86.8	91.8	8.6	90	105	119	137	156	207	263	313	333	366	.6	.4
11	DALLAS-FT. WORTH	2	58.5	.010	-	.00	92.2	84.6	88.4	8.4	89	110	125	148	174	225	262	314	343	387	.9	.1
11	DALLAS-FT. WORTH	3	60.7	.010	-	.39	94.2	86.3	90.3	9.4	92	114	131	153	177	217	250	301	327	378	.8	.2
11	TULSA	3	64.6	.026	-	.44	92.9	86.0	89.5	9.6	87	106	123	147	172	211	238	299	333	360	.9	1.1
12	HOUSTON	4	58.7	.010	-	.01	91.3	84.4	87.9	9.9	91	106	120	144	167	224	262	323	350	392	1.0	1.5
12	HOUSTON	4	61.4	.049	-	.53	91.3	84.2	87.8	9.2	97	109	124	140	159	206	258	326	361	404	.9	1.6
12	HOUSTON	3	58.7	-	-	.50	96.5	87.1	91.8	8.5	92	110	127	151	175	220	265	321	342	368	.7	.3
12	HOUSTON	4	58.1	.004	-	.00	91.9	83.9	87.9	8.0	92	110	124	148	174	231	272	322	350	390	1.1	1.5
12	HOUSTON	4	60.1	.012	-	.44	94.3	86.1	90.2	8.0	97	112	126	149	168	210	248	302	327	375	.9	1.4
12	HOUSTON	1	59.5	.016	-	.50	96.9	86.9	91.9	8.5	92	111	126	145	168	216	261	308	329	368	1.0	1.0
12	SAN ANTONIO	3	57.1	-	-	.27	91.8	84.1	88.0	8.0	95	114	128	146	166	215	258	311	351	392	1.0	.5
12	SAN ANTONIO	3	59.0	-	-	.47	96.4	86.4	91.4	8.7	91	110	125	146	165	211	261	305	324	364	1.0	1.0
13	ALBUQUERQUE	1	56.3	-	-	.05	91.2	81.9	86.6	8.2	94	119	135	158	183	233	280	355	384	414	.9	.5
13	ALBUQUERQUE	3	60.4	-	-	.00	91.2	83.2	87.2	8.9	87	104	132	156	179	216	257	321	355	398	1.0	.5
13	AMARILLO	2	57.8	-	-	.52	91.1	85.6	88.4	7.7	88	118	139	178	210	240	270	326	353	410	.5	.5
13	BAKERSFIELD	1	55.0	-	-	.49	95.0	85.2	90.1	-	-	-	-	-	-	-	-	-	-	-	-	-
13	BAKERSFIELD	1	55.4	-	-	.58	94.8	85.2	90.0	8.6	-	-	-	-	-	-	-	-	-	-	-	-
13	BAKERSFIELD	4	53.6	-	-	.00	91.6	81.7	86.7	8.1	98	128	135	165	188	239	290	339	366	406	1.0	-
13	DENVER	3	59.0	-	-	.00	88.6	81.2	84.9	9.4	92	110	122	141	162	218	279	340	367	410	1.0	1.0
13	MIDLAND	2	60.7	-	-	.47	94.4	87.3	90.9	6.6	105	-	-	134	158	-	219	-	324	-	384	-
13	MIDLAND	2	60.9	-	-	.00	90.9	83.6	87.3	6.8	107	-	-	134	156	-	215	-	304	-	386	-

TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1971  
ANALYSES OF LOW-LEAD CONTENT GASOLINE--CONTINUED

DISTRICT	CITY	SAMPLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	DISTILLATION, ASTM D86														RES LOSS %
							RES, ASTM D2699	MOT., ASTM D2700		TEMPERATURE, °F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED													
											K+M ---	5	10	20	30	50	70	90	95	EP				
																					1BP			
13	PHOENIX	3	55.5	.030	-	.00	90.8	82.1	86.5	9.0	94	107	112	148	177	239	289	346	368	410	.8	1.2		
13	PHOENIX	3	60.6	.025	-	.00	91.5	83.7	87.6	7.8	96	117	132	153	174	214	250	312	343	386	.9	1.6		
13	PHOENIX	3	57.0	.041	-	.00	91.2	83.8	87.5	7.6	94	121	139	168	193	234	275	342	376	429	1.1	1.2		
13	SALT LAKE CITY	3	58.2	-	-	.00	89.8	80.8	85.3	9.2	91	116	129	160	188	236	276	336	366	390	1.1	.9		
13	SALT LAKE CITY	3	60.8	-	-	.00	89.5	81.9	85.7	6.7	97	122	133	152	172	212	251	311	347	404	1.0	1.0		
13	TUCSON	1	62.6	-	-	.60	92.4	84.4	88.4	-	100	116	128	147	167	208	252	340	372	425	1.0	1.0		
14	BILLINGS	3	60.8	-	-	.00	90.2	80.5	85.4	10.1	92	107	122	147	173	217	250	295	317	362	.9	2.1		
14	BILLINGS	3	61.4	-	-	.00	90.4	82.3	86.4	9.3	90	106	126	154	179	222	258	318	352	398	.8	1.7		
14	SPOKANE	4	61.0	.010	1	.00	91.1	82.8	87.0	8.0	101	122	137	154	173	214	253	311	339	390	1.0	1.0		
15	SEATTLE	2	56.0	-	-	.00	90.8	82.1	86.5	8.0	96	116	131	158	185	236	285	344	374	413	.9	1.1		
15	SEATTLE	3	60.1	-	-	.00	91.6	83.7	87.7	9.0	95	118	131	156	180	221	260	328	370	408	.9	1.1		
15	SEATTLE	3	63.2	-	-	.00	90.3	82.9	86.6	7.0	102	124	136	150	166	198	235	314	350	410	1.1	.9		
16	SAN FRANCISCO	1	61.2	-	-	.66	97.2	85.8	91.5	-	90	104	115	134	155	201	249	318	345	394	1.0	1.0		
16	SAN FRANCISCO	1	57.9	-	-	.55	97.6	85.8	91.7	8.1	96	119	131	151	171	216	261	327	352	385	.8	2.2		
16	SAN FRANCISCO	5	56.0	-	-	.02	91.4	82.3	86.9	8.6	93	112	126	152	179	232	283	340	365	406	1.0	.8		
16	SAN FRANCISCO	6	57.5	.010	2	.01	91.9	84.0	88.0	8.1	94	113	128	153	177	216	257	325	353	397	1.0	1.3		
16	SAN FRANCISCO	2	57.6	-	-	.60	94.6	87.0	90.8	8.2	108	-	134	150	-	204	-	304	-	396	-	-		
16	SAN FRANCISCO	5	60.3	.010	1	.01	90.8	82.1	86.5	7.4	98	120	132	148	164	199	239	320	350	400	1.0	1.0		
16	SAN FRANCISCO	5	58.8	.010	1	.43	94.3	86.5	90.4	7.7	95	115	127	142	158	197	246	310	342	402	1.0	1.3		
16	SAN FRANCISCO	3	55.5	.074	-	.61	94.8	84.6	89.7	-	87	103	121	147	175	236	294	342	377	419	1.0	1.5		
16	SAN FRANCISCO	5	59.5	.050	1	.47	95.3	85.1	90.2	8.4	93	114	125	143	161	202	250	323	357	419	1.0	.8		
16	SAN FRANCISCO	5	59.5	.050	1	.47	95.3	85.1	90.2	8.4	93	114	125	143	161	202	250	323	357	419	1.0	.8		
17	HONOLULU	2	63.9	.150	5	.41	94.1	84.9	89.5	10.1	90	106	115	131	149	195	249	360	401	430	1.3	.8		
17	HONOLULU	2	57.5	.120	0	.56	93.8	85.4	89.6	10.2	85	99	111	135	162	219	289	349	379	410	.9	1.7		
17	HONOLULU	2	56.9	.230	0	.00	91.3	84.0	87.7	8.7	93	120	129	158	181	221	262	330	382	414	1.0	1.0		
17	HONOLULU	1	60.3	.090	1	.00	91.2	82.9	87.1	9.0	96	117	128	145	160	192	226	290	343	392	1.0	1.0		
17	HONOLULU	1	54.8	-	-	.31	94.4	85.4	89.9	-	99	120	133	155	176	223	265	322	346	393	1.0	1.0		
17	LOS ANGELES	5	57.8	.020	1	.02	91.5	83.1	87.3	7.7	99	120	133	154	177	220	259	330	355	406	.9	1.1		
17	LOS ANGELES	7	57.4	.010	2	.03	91.5	83.7	87.6	8.0	95	120	133	154	177	220	259	330	355	406	.9	1.1		
17	LOS ANGELES	6	57.4	.060	1	.19	91.9	83.1	87.5	7.0	100	122	134	151	170	216	269	323	345	397	1.1	1.0		
17	LOS ANGELES	4	57.7	-	-	.50	94.7	85.5	90.1	8.7	95	113	126	145	164	216	268	321	349	392	.9	1.1		
17	LOS ANGELES	4	54.4	.030	1	.43	94.9	84.3	89.6	8.3	95	117	126	146	174	232	295	345	364	404	1.1	1.0		
17	LOS ANGELES	5	55.7	.010	1	.06	91.4	83.1	87.3	9.1	94	112	129	156	185	229	265	316	340	390	.9	1.4		
17	LOS ANGELES	5	56.0	.010	1	.47	93.9	85.4	89.7	8.7	94	114	124	144	167	220	281	355	387	427	1.1	.9		













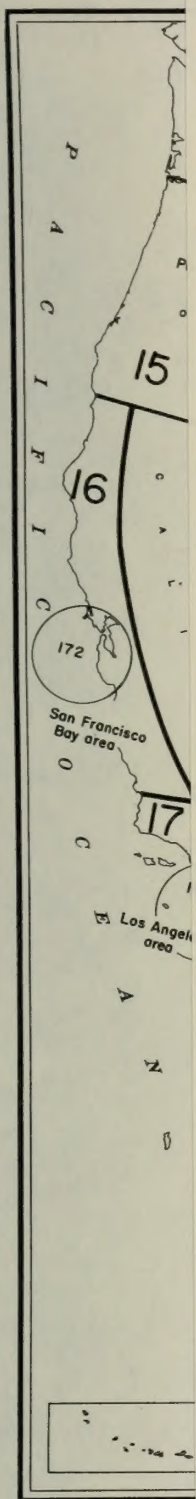


FIGURE 1. Map of the United States showing the location of the study area. The study area is located in the Pacific Northwest, near the San Francisco Bay area and the Los Angeles area.



FIGURE 5.—Map Showing Locations and Numbers of Samples for the National Motor Gasoline Survey, Summer 1971





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